



SOUTH
KESTEVEN
DISTRICT
COUNCIL



Environment Overview and Scrutiny Committee

12th December 2023

Report of Councillors Patsy Ellis and
Rhys Baker Cabinet Members for
Environment and Waste

Update on upgrading of District Council Streetlights to LED units

Report Author

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Purpose of Report

This report provides an update on progress to upgrade District Council operated streetlights to energy efficient LED units and considerations for ongoing management of lamps.

Recommendations

That the Committee:

1. Notes the updates regarding the procurement process for the next stage of the upgrade programme of LED streetlights.
2. Discuss the Street Lighting Policy and following the delegation from Cabinet, confirm how it wishes to proceed regarding the options for budgeted upgrade of lamps.

Decision Information

Does the report contain any exempt or confidential information not for publication?	No
What are the relevant corporate priorities? (delete as appropriate)	Clean and sustainable environment
Which wards are impacted?	All wards

1. Implications

Taking into consideration implications relating to finance and procurement, legal and governance, risk and mitigation, health and safety, diversity and inclusion, safeguarding, staffing, community safety, mental health and wellbeing and the impact on the Council's declaration of a climate change emergency, the following implications have been identified:

Finance and Procurement

- 1.1 Council approved the allocation of £1 million in order to provide the required funding in order to upgrade streetlights to LED lighting. With costs for utilities at a high a faster paced upgrade programme will reduce the Council's budget for streetlights for future years.

Completed by: Richard Wyles, Deputy Chief Executive and s151 Officer

Procurement

- 1.2 As this requirement is being competed via a framework, I am satisfied that this will be a compliant process.

Completed by: Helen Baldwin, Procurement Lead

Legal and Governance

- 1.3 Councils do not have a duty to provide streetlighting, however once provided, the local authority does have a duty to maintain the system in a safe condition.

Completed by: Mandy Braithwaite, Legal Executive

Community Safety

- 1.4 If the Committee wishes to pursue options for part-night illumination of any or all of the Council's stock of streetlights, any implications for public safety will need to be considered. This will need to take into account impact on the Council's CCTV monitoring function, review interaction with existing Public Space Protection Orders, the Safer Streets project and consult further with Lincolnshire Police regarding specific concerns for any particular areas.

Completed by: Ayeisha Kirkham – Head of Service (Public Protection)

Climate Change

- 1.5 The energy reduction potential of upgrading the Council's stock of lamps to LED is significant, with streetlighting being the single largest area of electricity consumption for the Council. Annual carbon savings are modelled within the report which will contribute towards the Council's carbon reduction target.

Completed by: Serena Brown, Sustainability and Climate Change Officer

2. Background to the Report

- 2.1 South Kesteven District Council is responsible for managing a total of 3893 streetlights within the district all of which are funded from the Council's General Fund. These lights are predominantly for providing lighting to footways, as opposed to the separate and much more significant stock of streetlights provided for highways in the district, which are managed by Lincolnshire County Council.
- 2.2 The majority of lights operated by the Council remain 35W (or 36W) low pressure sodium lamps. The total electricity consumption arising from the lamps result in just over 4% of the Council's total carbon emissions – a significant contribution.
- 2.3 Following scrutiny by [Finance and Economic Overview and Scrutiny Committee on 22nd June 2023](#), [Environment Overview and Scrutiny Committee on 11th July 2023](#), and consideration by [Cabinet on 11th September 2023](#), [Council on 28th September 2023](#) agreed to approve an allocation of £1m to accelerate the replacement of Council operated streetlights with LED lamps.
- 2.4 The invitation to tender has now been issued on the YPO Highways and Electrical Installations framework to find a contractor to complete the LED upgrades. Based on the deadline for interested suppliers to submit a response, evaluation and the approval of contract award by Cabinet in February, the contract start date is targeted for mid-February 2024. The programme is designed to be delivered as swiftly as possible so as to maximise energy savings.

2.5 An ongoing area of work is to improve the information we have on our streetlighting stock in terms of exact location of lamps, type and condition. The majority of lamps under the Council's responsibility are now plotted on Statmap, and all lamps will be plotted ready for the contract start date in order to provide the successful contractor with the most up-to-date information. Plans are underway to also provide this information to town and parish councils once the mapping of lamps has completed.

2.6 Council also recommended to Environment Overview and Scrutiny Committee to review the current Street Lighting Policy which was reviewed by Environment Overview and Scrutiny Committee and approved by [Cabinet on 12th July 2018](#). This policy is attached at Appendix A and sets out the current position on how streetlights owned by South Kesteven District Council will be managed.

2.7 The current Street Lighting Policy of 2018 states three objectives for the Council's street lighting stock:

- *Ensure existing lighting stock is maintained in accordance with current electrical regulations to ensure it meets legal, health and safety requirements.*
- *To follow good practice guidance, in order to further reduce the risk to staff, contractors and the public.*
- *To ensure South Kesteven District Council street lights provide illumination during the hours of darkness.*

2.8 The Street Lighting Policy also states that the Council's stock of streetlights should be effectively managed to ensure that it is energy efficient.

2.9 [Environment Overview and Scrutiny Committee on 11th July 2023](#) were updated on the Council's current position on maintaining illumination during hours of darkness and that deviation from that would require a formal consultation exercise involving the public as well as other public bodies including town and parish councils and the Police and Crime Commissioner.

2.10 The current specification for the lamps to be upgraded to LED includes provision for:

- Replacement dimmable LED luminaires
- Photocell controllers to activate lamp automatically at dusk and switch off at dawn
- NEMA socket to facilitate future connection to a networked system

2.11 Energy savings through moving to LED lamps are significant. An upgraded low-pressure sodium lamp to an LED lamp with the capacity to dim illumination to 50% of full illumination from midnight to 6AM will have a typical energy saving of 63%. By switching lamps off completely for six hours during the night, up to an

additional 12% saving can be expected, bringing the total potential energy saving to 75%.

2.12 Simple payback has been calculated for the project with dimming profile, and for the project with a pre-programmed midnight switch off in the below table. This updates costs presented previously to Finance and Economic Overview and Scrutiny Committee and Environment Overview and Scrutiny Committee earlier this year. This is based on the most up to date present costs for electricity, and due to increases in unit cost now represents a slightly improved payback on investment. Market analysis suggests these are now reaching a peak in cost, however, given ongoing utilities market volatility, costs may continue to change as the programme develops. Therefore, the following calculations need to be viewed in that context.

	With dimming profile	With part-night illumination**
Estimated replacement cost	£995,260	£1,013,085
Energy saving cost estimated 63%*	£215,948	-
Energy saving cost estimated 75%*	-	£253,190
Annual carbon reduction (tonnes)	156	179
Pay back	4.6 years	4.0 years

*Less a deduction for a statutory safety check every two years

** Including allocation to visit existing LED lamps to install part-night programme

2.13 Assuming the Council adopt part-night illumination, a midnight switch-off results in expected additional energy savings of £37,242. With energy costs appearing to be approaching their highest costs with no further dramatic increases expected, if the unit cost of electricity did decrease in future years this would reduce the payback on investment.

2.14 There are several options to take forward the next phase of the upgrade programme in an efficient manner:

2.15 **Option 1 – implement pre-programmed dimming between midnight and 6AM**
The previously tendered programme of upgrades, commencing in 2021, included provision for dimming of LED lamps between midnight and 6AM, a policy taken up by numerous councils to maximise cost and energy savings while maintaining illumination. Upgraded lamps have been installed with an all-night photocell to facilitate the programme of dimming illumination by 50% for a six hour period.

2.16 **Option 2 – implement pre-programmed part night illumination.**

As detailed in the table at 2.13, by implementing a new policy of part-night illumination there is an additional energy saving resulting in a cost saving of £37,242 based on current electricity unit costs. This assumes 100% of the Council's stock of lamps will be illuminated for only part of the night.

This factors in an additional cost to visit existing LED lamps to install a program of part-night illumination rather than the current dimming profile. In order to pursue this, further consultation will need to take place, considering public feedback as well as concerns regarding specific areas raised by other authorities. It is noted that Lincolnshire County Council's streetlights use part-night illumination, with lamps unilluminated between midnight to 6AM.

- 2.17 Currently, South Kesteven District Council does not operate a Central Management System (CMS) to facilitate control of the network of streetlights and remotely control illumination levels. Nevertheless, the inclusion of the NEMA socket into upgraded lamps does allow for the future connectivity to a CMS system.
- 2.18 Options for a CMS have been explored as part of the procurement of the previous programme of LED upgrades, and barriers to implementation were found including:
 - Ability to effectively transmit signal and operate a CMS system - the Council's stock of streetlights is unevenly distributed, with some villages in the district having fewer than 5 lamps.
 - Cost of running a CMS system in comparison to the number of streetlights operated – the smaller number of lights operated by the Council limits the savings that can be made through remote control
- 2.19 Any new CMS would be most impactful with a policy of part-night illumination, in order to maximise energy and cost savings through the system. Within the present policy of all night illumination with dimming, there are limited changes to be made to levels of illumination that would make a significant saving to justify the level of investment for use of a CMS.

3. Key Considerations

- 3.1 Current unit cost paid by the Council for electricity is at a historic high, and there is a strong case for an accelerated roll out of any upgrade programme in order to maximise savings on energy costs and return on investment. While there are additional savings expected to be made through the additional savings of part-night illumination versus a dimming profile, these savings are reasonably modest across the programme.
- 3.2 If the Committee opts to update the current Street Lighting Policy to allow for part-night illumination, the consultation process will need to be factored into the project programme which will have an impact on roll out of upgrades.

4. Other Options Considered

4.1 Several further options have been previously presented to the Committee for consideration, including the potential to reduce the overall stock of lights the Council has responsibility to illuminate, and the implications of not pursuing a proactive programme of upgrades.

5. Reasons for the Recommendations

5.1 The Committee is asked to consider the options set out and to confirm how they wish to proceed with the budgeted programme for upgrading the Council's streetlights to LED.

6. Consultation

6.1 Following the discussion at Finance and Economic Overview and Scrutiny Committee on the 22nd June 2023, the Committee noted their support for the development of an accelerated replacement scheme.

6.2 No formal consultation has taken place on the Council's approach to provision of streetlights to date. If the decision to pursue part-night illumination is pursued, to switch off streetlights during hours of darkness, further consultation with other statutory bodies would need to take place to understand the wider impacts.

7. Background Papers

5.1 Cabinet 12th July 2018 - [South Kesteven District Council - Agenda for Cabinet on Thursday, 12th July, 2018, 2.00 pm](#)

5.2 Finance and Economic Overview and Scrutiny Committee 22nd June 2023 - [Streetlights report.pdf \(southkesteven.gov.uk\)](#)

5.3 Environment Overview and Scrutiny Committee 11th July 2023 - [Environment Overview and Scrutiny Committee on 11th July 2023](#)

5.4 Cabinet 11th September 2023 - [Cabinet on 11th September 2023](#)

5.5 Council 28th September 2023 - [Council on 28th September 2023](#)

8. Appendices

8.1 Appendix A SKDC Street Lighting Policy [approved by Cabinet June 2018]